

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The rejection of claims 1, 2 and 5 under 35 U.S.C. §103 as allegedly being made “obvious” based on Dietz ‘099 in view of Asano ‘902 is respectfully traversed.

Applicant’s independent claims 1 and 5 each require, *inter alia*, maintaining a cache of frequent conversation address information which is initially quickly accessible for address look-up functions. If the desired look-up data is not found in the cache, then a more time consuming and more traditional look-up search is performed. Particular techniques are utilized for maintaining the cache in a properly updated fashion.

Dietz describes only a monitor which classifies packets passing through a connection point on a network. One of the possible classifications is a source address and a destination address. However, Dietz is concerned only with a compilation of statistics on each of the defined “conversational flows”.

Asano concerns the management of a communication cache which, in essence, provides a concordance between a network address and an ATM address (Asano, Fig. 6A and 6B). Asano’s purpose is to control the aging of entries in the cache. He does so by starting an aging timer when a short cut (concordance) has been set in the cache. At some fraction of the aging time he commences monitoring of a flow. If the data flow

exceeds a predetermined threshold then the aging of the relevant entry is effectively restarted, Asano, column 8, lines 1 to 8.

It is unreasonable *a priori* to combine Dietz and Asano. Dietz is maintaining statistics on a large number of different “conversations” through some network node. Fairly obviously, not all the conversations can be current at any one time. If you apply Asano, then those conversations which do not happen to generate much traffic during an aging period (which may only be a few minutes) will actually be aged out.

The Examiner asserts, regarding claim 1, that Dietz discloses a network unit (column 8, lines 57 to 61) which includes a look-up engine for performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet (column 12, lines 4 to 11; lines 58 to 60; column 13, lines 15 to 22; column 14, lines 9 to 13). However, none of the passages quoted by the Examiner discloses the obtaining of forwarding data for the packet.

The absence of this feature from the cited passages is not incidental. Dietz is not concerned with obtaining forwarding data. All he is doing is monitoring different conversations going through the same node in a network.

The Examiner goes on to assert that Dietz discloses “a cache memory for storing entries accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache (column 14, lines 9 to 13). Again, Dietz discloses nothing of the

kind. Dietz uses a look-up engine to see whether a particular conversational pair has already been stored. Without it one could not perform the multiple monitoring correctly.

However, again, the Examiner appears not to distinguish between traffic monitoring and traffic switching. Back in the days of steam when railway locomotives were less anonymous than they now are, we had the phenomenon of the train spotter, usually a schoolboy who noted down the serial numbers of locomotives passing along a track. His “look-up” was in his notebook to see whether he had previously spotted a particular engine. The function is clearly distinguishable from that of the railway signalman whose task it is to operate the railway points (switches) to direct the trains to their proper destinations.

Although Dietz will perform a look-up to see whether the relevant flow is a known flow, there is no reference either in column 4, lines 9 to 13 or elsewhere to any address look-up if the address pair is not held in the cache. Note that the applicant’s claimed look-up engine is obtaining forwarding data (first main clause in claim 1). This function is not in Dietz and *a fortiori* the function of performing that address look-up when the address pair is not held in the cache is likewise not disclosed in Dietz.

Finally, the Examiner relies on Asano to disclose a replacement policy which allegedly “includes updating said cache so as to displace entries associated with relatively low measures of traffic flow by entries associated with relatively high measures of traffic

flow". The Examiner relies on column 2, lines 50 to 65 of Asano and column 9, lines 25 to 35 of Asano for this proposition. However, neither citation provides any support for this contention.

The Examiner here appears to have practiced an *ex poste facto* simplification. Asano will allow the aging out of an entry which is not refreshed by the detection of a sufficient new flow. However, he does not disclose the displacement of an entry relating to one flow by an entry relating to a different flow. He does not have a function corresponding to applicant's block 109.

Concerning claim 2, although it is fair to say that Asano determines whether a particular data flow is in the cache and inserts a new entry if the measure of traffic flow exceeds the threshold, neither Dietz nor Asano discloses the automatic increase of the threshold.

The Examiner asserts that adding entries into a cache if they are over a threshold and removing entries if they are under a threshold somehow causes the threshold to be adjusted to make sure that the threshold is a point where there is only the number of entries that can fit into the cache. The Examiner is plainly contradicted here by the absence of any adjustment to the threshold in Asano. There is no justification for this unsupported speculation. In accordance with standard USPTO practice, the Examiner is requested to factually substantiate this allegation if this ground of rejection is maintained.

The Examiner's contention is also technically flawed for another reason. In the present invention, where there is a look-up engine for obtaining forwarding data for address pairs not in the cache, the system can cope with address pairs that are not in the cache or not refreshed. However, if one applies an increasing threshold to the entries in Dietz' flow monitoring cache, all the entries will age out and consequentially all the statistics will eventually be lost.

The Examiner asserts that claim 5 should be rejected for the same reasons as advanced in respect of claim 1. Correspondingly, the Examiner's contentions in respect of claim 5 suffer from the same defects as noted above.

The rejection of claims 3 and 6 under 35 U.S.C. §103 as allegedly being made "obvious" based on a three-way combination of Dietz/Asano and Wakeman '175 is also respectfully traversed.

Fundamental deficiencies in both Dietz and Asano have already been noted above with respect to parent claims 1 and 5. Wakeman also does not even contemplate a network address pair look-up.

The rejection of claims 4 and 7 under 35 U.S.C. §103 as allegedly being made "obvious" based on yet another three-way combination of Dietz/Asano and Walton '243 is also respectfully traversed.

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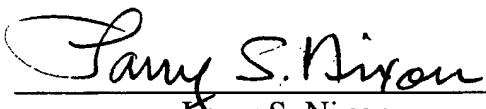
Once again, fundamental deficiencies of both the primary and secondary reference have already been noted above with respect to applicant's parent claims 1 and 5. Walton similarly fails to even contemplate a network address pair look-up .

The Examiner's attention is also directed to new method claims 8-14 – which are analogous to original apparatus claims 1-7 and believed to be distinguished from the cited prior art for similar reasons.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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